CALFED FULL PROPOSAL
Capacity building, education and outreach, and research

Project and Applicant Information
CALFED Bay-Delta Program Project Information Form
Watershed Program – Full Proposal Cover Sheet

1. Full Proposal Title:	Interactive Watershed Information Model (WIM) for Education and Adaptive Management
Concept Proposal Title/ Number:	Interactive Watershed Information Model (WIM) for Education and Adaptive Management # 0153
Applicant:	Western Shasta Resource Conservation District
Applicant Name:	Tom Engstrom, President, Board of Directors
Applicant Mailing Address:	3294 Bechelli Lane, Redding, CA 96002
Applicant Telephone:	(530) 224-3250 **Fax:** 224-3253 **E-Mail:** wsrcd@westernshastarcd.org
Fiscal Agent Name (if different):	same
Fiscal Agent Mailing Address:	
Fiscal Agent Telephone:	**Fax** **E-Mail:**

2. Type of Project: Indicate the primary topic for which you are applying (check only one)

___	Assessment	___	Monitoring
X	Capacity Building	___	Outreach
___	Education	___	Planning
___	Implementation	___	Research

3. Type of Applicant:

___	Academic/University	___	Non-Profit
___	Federal Agency	___	Private Party
___	Joint Venture	___	State Agency
X	Local Government	___	Tribal or Tribal Government

4. Location (including County):
What major watershed is the project primarily located in:

___	Klamath River	___	Bay-Delta
X	Sacramento River	___	Southern CA
___	San Joaquin River	___	Tulare Basin

5. Amount of funding requested: $ 378,899
Cost share/in-kind partners? _X_ YES ___ NO

continued

Identify partners and amount contributed In-Kind by each: In-Kind

California Department of Forestry & Fire Protection	$2,500
Natural Resources and Conservation Service	2,500
California Department of Fish and Game	2,500
U. S. Fish and Wildlife Service	2,500
Shasta College	2,000
Shasta County Office of Education – Whiskeytown Environmental School	2,000
Total In-Kind Match	$14,000

6. Have you received funding from CALFED before? X YES ___ NO

If yes, identify project title and source of funds:

Project Title	**Source of Funds**
Lower Clear Creek Channel Restoration Project	Federal Bay-Delta Act through US Fish & Wildlife Service
Upper Clear Creek Prescription	Federal Bay-Delta Act through National Fish & Wildlife Foundation

By signing below, the applicant declares the following:

1. The truthfulness of all representations in their proposal
2. The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization) ‘
3. The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

Tom Engstrom, President, Board of Directors

_____

Tom Engstrom

1. Describe your project, its underlying assumptions, expected outcomes, timetable for completion and general methodology or process.

Shasta County watersheds, primarily 18020101 Sacramento-Lower Cow-Lower Clear and 18020112 Sacramento-Upper Clear, in the North Sacramento Valley Ecological Zone.

There is increasing value in linking scientific research and scientific education within our educational system and institutions of higher learning to promote an understanding of the processes and products of the scientific enterprise by citizens and enrich educational experience at all levels of instruction. In this digital age there are unprecedented opportunities for the scientific community to acquire, analyze, interpret and distribute new scientific data to formal and informal learning settings for use by students, citizens, and watershed groups.

This project is about information development and exchange, including project monitoring through protocols and databases consistent with CALFED needs. Watershed Information Model (WIM) will enable anyone interested in watershed management to access this information available through a specific web site housed by Shasta College. Through use of ArcIMS and the Internet, WIM will be an interactive mapping and data collection system with real-time updates, linking the Shasta College Department of Natural Resources with the Clear Creek Field Station (scheduled to open Spring 2002 at the Shasta County Office of Education's Whiskeytown Environmental Education Camp, jointly operated by the county and the National Park Service), and the Western Shasta Resource Conservation District, a major implementer of watershed restoration projects, and linked with other groups, educators, researchers, scientists and agencies.

WIM will link agency and research data with education and land management activities, as shown in the diagram in the appendix of this proposal, offering interactive information instead of a static web site. WIM will also support opportunities for student research, internships, and mentoring at the college level. The comprehensive web page and links will give access to the best science education on local natural resources quickly and efficiently from a single site. WIM adds structure to the decision-making process that includes monitoring, research and staged implementation of projects, feedback loops to integrate knowledge and improve flexibility to change; improve communication between agencies, watershed groups, individuals, trade organizations, interest groups and others active in the watershed, which is necessary for making responsible decisions on watershed issues.

WIM will be ArcIMS software, which provides the foundation for disseminating high-end geographic information systems (GIS) and mapping services through the Internet. ArcIMS establishes a common foundation for the exchange and sharing of resources by providing a collaborative environment for departments, divisions and government agencies to share information. It provides opportunities to leverage data from within the organization as well as a common platform to exchange and integrate data from other agencies. ArcIMS lets anyone exchange, integrate, and analyze data in new ways with a framework consisting of clients, services, and data management. Within a simple browser, ArcIMS allows interface access, display and interacts with data generated from professional GIS solutions. With ArcIMS users can integrate geographic data from multiple sources for localized query and analysis. ArcIMS is the only software that enables users to integrate local data sources with Internet data sources for display, query, and analysis in an easy-to-use Web browser.

The underlying assumptions in the desire to develop WIM is clarified in the CALFED Watershed Program Plan, Section 2.4 (C4) Education and Outreach. WIM will support and facilitate the exchange of information, data, and knowledge between all people interested in, involved with, or affected by watershed management activities. WIM is a resource information exchange center. The ability to access geographic information systems, displayed data, historical information, physical features, and other watershed attributes in an easy-to-use program, like ArcIMS, is becoming increasingly valuable as more people become involved in watershed management activities. Since watershed groups have the desire to do "one-stop shopping" and determine what information is available that is relevant to them, ArcIMS is a great answer to this need.

The CALFED Watershed Program is committed to helping improve the use and usefulness of resource information centers through funding. CALFED has committed to help meet basic infrastructure and management needs so the center can adequately meet the information demands of existing and future watershed programs. With CALFED's assistance, the value of this information center will be recognized by a broad range of potential users within the geographic scope of various organizations where it can be either linked or collated into a single database, such as collating various layers such as stream, with roads, with fires, with vegetation or tree species.

This proposal has the support and unique collaboration of Shasta College, where the database and web page housed in their Computing Resource Center, the Clear Creek Field Station and Whiskeytown Environmental School, VESTRA (a private corporation specializing in GIS consulting, analysis and map production services) and the Western Shasta Resource Conservation District. Each of these organizations develops and uses data for either education, planning or on-the-ground restoration projects.

The timetable for completion of WIM is 16 months from the date of contract. The WSRCD would sole-source the contract with VESTRA, a highly qualified local GIS company (overview of the organization in the appendix). VESTRA's design and set up would require nine months of full time work and three months of quarter time work, plus semi-annual updates over the balance of the 3-year period. During that time WSRCD would have a coordinator working with VESTRA, the Clear Creek Field Station, Whiskeytown Environmental Education Camp, Shasta College, and various cooperative agencies on a half time basis for complete grant period managing the data input as new research and monitoring reports are added to the system.

Key segments of the design and set up include: designing a dynamic web page, including links, a Data Catalog of GIS files and metadata, viewing GIS data, viewing static pictures, interactive capabilities with GIS with a browser, and real time updates. The WSRCD coordinator will be working with various agencies, educational institutions and watershed groups to gather data in usable forms to add to the WIM database.

Computer requirements are a Pentium III/P4, lGB RAM, SCSI Drives, an operating system (MS Windows MT/2000 server), web server (MS Internet Information Server 4.0/5.0), Middleware (Java Servlet Engine), and Map Server (ArcIMS 3.4).

ArcIMS 1 page

2. Describe your qualifications and readiness to implement the proposed project.

a. Describe the level of institutional structure, ability and experience to administer funds and conduct the project. Identify the fiscal agent responsible for handling the funds.

The contract for this project will be with the Western Shasta Resource Conservation District (WSRCD), which has been implementing erosion control, fuels reduction projects, fisheries enhancement and water quality projects since it was formed in January 1957. The district consists of approximately 1.7 million acres in Western Shasta County. The purpose of the WSRCD is to collaborate with willing landowners, government agencies, and other organizations to facilitate the conservation or restoration of Western Shasta County's natural resources.

WSRCD staff has designed and continues to update its own web site, which can be found at www.westernshastarcd.org. WSRCD staff consistently use the following software programs, which are part of the WSRCD computer system: 3-D Topo Quads by Delorme, Arcview 3.1, AutoCad Release 14, BEHAVE, Correl Print and Photohouse, FARSITE, P-Quest & P-Maps, Winzip 8.0, Microsoft FrontPage, and Adobe PageMaker.

WSRCD is grant funded and has no discretionary funds. The WSRCD has been awarded over $6.5 million from state, federal and private agencies specifically for work in Western Shasta County. The district operates and implements projects with a staff of eleven. The district's annual budget has grown from $2,000 a year to over $1.2 million a year. Currently the district manages 23 grant contracts with federal, state, and local agencies, private foundations and private organizations. Many of these are multi-year grants.

During the past few years the focus of the district has been on erosion control, fuels reduction to prevent catastrophic fire, watershed restoration (including floodplain restoration), and projects to improve fisheries habitat for threatened and endangered species and has made good use of GIS in compiling data, maps and reports. Most of these reports require baseline data development and monitoring, all reports that can be used by other organizations and watershed groups in defining and developing their own processes for restoration projects. In the past five years watershed projects have been implemented in these watersheds: Upper and Lower Clear Creek, Middle Creek, Shasta West, Cottonwood Creek, Battle Creek, and Cow Creek. The Lower Clear Creek channel project is of such a scale, it is likely to become one of the best models for total watershed restoration (including re-channeling) in the country.

The district has a 7-member volunteer board of directors representing landowners in the district, and who hold leadership positions within the district, providing direction in their community's natural resource programs. Their backgrounds include ranching, agriculture, forestry, teaching, and finance. The Shasta County Board of Supervisors appoints the district directors.

WSRCD staff includes:

Jeff Souza, Projects Manager for the district, is responsible for the successful implementation of dozens of projects in the areas of wildlife and fisheries restoration, erosion control, fuels reduction, and coordinated resource planning; coordinated wildlife habitat restoration projects; vegetation specialist. Jeff has over ten years experience in watershed restoration projects and supervises a staff of six. Jeff has an M.S. in Agriculture, CSU-Chico. B.S. in Environmental and Systematic Biology, California

Polytechnic State University, San Luis Obispo. Associate of Arts, General Studies, Butte Community College, Oroville, California.

Mary Schroeder, Administrative Manager, is chief administrative officer of the district, responsible for representing, managing and directing the district's internal business operations consistent with the strategic plan. Her work includes grant writing, grant management, fiscal responsibility, administration of office staff and two watershed coordinators. She has over 20-years business management in resource and wood products industries and is a leader in working with collaborative local groups on natural resource issues. Mary's experience includes operations supervisor and management in both the pulp and paper and wood-fired power plant industries. She has a B.S. in Forest Industries Management from The Ohio State University, 1975-78. MBA, City University, partially completed. Certificate in Land Use Planning, U.C. Davis, partially completed.

Hide Nakashima, Projects Coordinator for the district, is responsible for the successful implementation of a variety of grants for natural resource restoration and rehabilitation projects; interpretation, analysis, and adherence to contract funding terms and conditions; hire, supervise and evaluate field staff employees working on District projects. Coordinate with sponsoring and other applicable state and federal agencies on project work and compliance with regulations. She has a B.S. in Natural Resource Management, Forestry, University of Nevada at Reno. Class A Sawyer, S212 Chainsaw Class 1993-1999.

The funds for this grant will be handled by the Fiscal Officer of the Western Shasta Resource Conservation District under the supervision of the Administrative Manager of the District, who reports to the Board of Directors.

b. Describe technical support available (including support needed for environmental compliance and permitting) to begin and complete the project in a timely manner.

Technical support is available from collaborators on this project, who will be invited to participate on a Technical Advisory Committee, which will include Shasta College, Bureau of Reclamation, Natural Resources Conservation Service, U.S. Fish & Wildlife Service, California Department of Fish & Game, National Marine Fisheries Service, California Department of Water Resources, Bureau of Land Management, and the Shasta-Tehama Bioregional Council. All of the above agencies and groups have participated on other advisory committees for the district for the past few years.

c. List any previous projects of this type you or your partners have implemented, funded either by CALFED or other programs.

The Shasta College Biology Department, under the guidance of Dr. Morgan Hannaford, received a grant from U.S. Fish and Wildlife Service to complete a water quality study in various locations throughout the Cow Creek Watershed, which is now available on the FWS website. WSRCD completed a watershed assessment on the Upper Clear Creek Watershed, which can be found on the Shasta County Office of Education website. The WSRCD web site contains several reports completed by the district, including data and GIS information. District staff frequently use the above software programs to design projects and detail the restoration work being implemented by the district.

3. Provide a completed budget cost sheet and describe the basis for determining project costs, including comparisons with other similar projects, salary comparisons, and other listed costs. Include all costs of environmental compliance, such as CEQA and/or NEPA, and permits. Describe how the approach to achieving the stated goals of the project demonstrates an effective cost relative to its anticipated benefits.

The costs on the attached budget sheet were calculated by using VESTRA's actual experience in developing interactive programs of this type. Costs include an experienced WSRCD coordinator to work with VESTRA, Shasta College, the Clear Creek Field Station, Whiskeytown Environmental School, and the many agencies also doing research, data collection, and restoration work in Western Shasta County watersheds. For example, this includes DFG, USFWS, BLM, NRCS, and CDF. WIM will be used as the basis for seeking additional grant funds to continually update and link the system with agency databases and real-time updates of data and monitoring reports. Therefore, the initial cost to set up the system will produce benefits for many years to come.

Cost Share Information

The cost share for this project is in-kind work from the various agencies involved in the Technical Advisory Committee, those agency personnel providing data and reports from their files that include the Shasta West Watershed, and time contributed by the Western Shasta Resource Conservation District Board of Directors at CRMP meetings.

The rate used to calculate In-Kind contributions are:

Agency Personnel	$60/hour
RCD Board Member	$35/hour

VESTRA one page

4. Describe the technical feasibility of the proposed project.

a. Describe any similarity to previously implemented successful projects in this community or elsewhere.

- Big Chico Creek Watershed has a similar site through CSU Chico, which develops and analyzes GIS map coverage and provides hard copy maps. The web site describes maps available, offers the user a preview map, a PDF download file map, metadata and statistics. The site links with the California Department of Water Resources to give real-time flow information on Big Chico Creek.
- The Big Chico site is at http://phobos.lab.csuchico.edu/projects/watersheds/chico/index.
- Napa County worked with VESTRA to develop a GIS Data Resource Catalog on the Internet which includes spatial data layers in metadata details. Contents include aerial photo layers, cadastral layers, environmental layers, transportation layers, non-aerial imagery layers, and governmental unit layers. The site can be found at www.co.napa.ca.us/internet/content/gisweb/giscatalog/default.
- Lake County worked with VESTRA to do a one-day quick-start installation and training session to migrate their prototype Map Objects IMS system to an ArcIMS system.
- The California Department of Food and Agriculture has worked with VESTRA to put up a proof-of-concept ArcIMS system based on the HTML viewer and is now working on building an ASP application.
- The Southwest Oregon Provinance worked with VESTRA to built an ArcView IMS application, which VESTRA is currently migrating the application to ArcIMS.
- The Natural Resources Conservation Service uses ArcIMS for a Soil Data Navigator.
- The EPA "Surf Your Watershed" site is also trying to facilitate distribution of wateshed data and information.

b. If the project proposes a new approach or new method with a high likelihood of adding new knowledge and or techniques, or with the potential to fill identified gaps in existing knowledge, describe how it will do so, and what monitoring components will provide substantiation of results.

This project has a high likelihood of making available new combinations of knowledge and techniques to watershed groups, state and federal agencies, educational institutions and interested citizens. The site will monitor the successful use of the site through an internal report on the number and types of users and types of data used. Furthermore, data gaps can be readily identified and prioritized by user-submitted "data wish lists."

c. Explain how the finished project will be maintained as necessary, and to what degree it may require continued funding from outside the community.

The WIM will have a fixed component, the system itself, and a living component which will evolve as more data and information is added or linked to the site. This proposal will establish the system and build on its various components for the life of this grant. After that time period, WSRCD will continue to seek funding for regular updates and maintenance of the system from not only CALFED, but also agencies and organizations who benefit from the use of the system.

Shasta College Services 1 page

5. Describe how the monitoring component of the project will help determine the effectiveness of project implementation and assist the project proponent and CALFED with adaptive management processes.

Adaptive management is possible only when an adequate feedback loop is available to assess assumptions, decisions and projects based on their outcomes. It begins with base line data, which is one of the main purposes of a watershed assessment. It will identify available data and data gaps. Effective monitoring programs for projects implemented in the watershed must be based on sound science and includes a wide range of participants to help improve decision-making processes for enhancing watershed health.

a. Identify performance measures appropriate for the stated goals and objectives of the project.

Performance will be assessed through tracking use (e.g., number of web site hits) and profiling the types of organizations that regularly access the site (e.g, a voluntary guest-book login). Reports can easily be generated for the AC that summarizes new additions, changes, and frequently requested data gaps. My monitoring the types of users hitting the site, we can enhance it for other desired audiences.

b. Describe how this project will coordinate with and support other local and regional monitoring efforts.

Existing data layers are often difficult to find. New projects can begin by searching what existing and completed projects used as their background and justification. Additionally, hindsight often reveals that disparate monitoring protocols and techniques are not comparable between projects. WIM will be a source for protocols that have been used in the watersheds included in the database.

The WSRCD coordinator for the project will coordinate with other local and regional monitoring efforts, located through the Internet, cooperating agencies, CALFED, other watershed groups and other RCDs. One of the most beneficial education parts of this proposal is the connection with Shasta College and Whiskeytown Environmental School (WES), which uses an experiential approach to teaching ecological concepts. Since this section of the proposal is allowed three pages, two of these are devoted to explaining WES in more detail.

c. Provide a description of any citizen monitoring programs that will be part of this project.

No citizen monitoring programs have been designed at this time.

d. What monitoring protocols will be used, and are they widely accepted as standard protocols?

Not applicable in this proposal.

Whiskeytown 2 pages

6. If this project is to develop specific watershed conservation, maintenance or restoration actions, describe the scientific basis for the action(s) described in the proposal. Max 2 pages.

Not applicable for this proposal, but since two pages are allotted for this segment of the proposal, below you will find information from the WSRCD Annual Report for 1999-2000, and on the next page a list of projects WSRCD has been working on and/or successfully completed. The focus of WSRCD is on developing watershed conservation, maintenance or restoration actions, which is what WIM will support in specific and diverse ways.

Project List

7.

A. How will the proposal address multiple CALFED objectives (in Section I) in an integrated fashion, with emphasis on water supply reliability, water quality, ecosystem quality, and levee stability objectives CALFED has established for Stage 1 of the program?

The Watershed Program acknowledges that watershed management comprises more than just projects. It includes land use decision making, parcel management techniques, restoration and enhancement projects, monitoring and education programs. To reach these goals, this proposal supports CALFED's primary objectives in the Watershed Program, which include:

- Facilitate and improve coordination, collaboration, and assistance among government agencies, other organizations, and local watershed groups.
- Develop watershed monitoring and assessment protocols, since effective monitoring programs are based on sound science and include a wide range of participants to help improve decision-making processes for enhancing watershed health.
- Support education and outreach, sharing and disseminating information gathered by implementing restoration projects, facilitating information exchange, providing opportunities to build or increase local involvement in watershed activities, and augment local resource conservation programs to better inform the public and improve watershed management decisions at all levels.
- Leverage the knowledge, energy and funds available to meet the goals and objectives of CALFED.
- Define the processes that are most significant in achieving the goals and objectives of CALFED.
- Ensure support and long-term sustainability of local watershed activities through a long-term commitment to management and monitoring.

B. Explain how the proposal will help define and illustrate relationships between watershed processes (including human elements), watershed management, and the primary goals and objectives of the CALFED (see Section I).

By sharing information on project and research on a real-time basis, ongoing monitoring and data gathering, WIM will demonstrate the value of watershed management, not only locally, but regionally as well. WIM will help stakeholders develop a broad perspective on issues; employ a scientific approach to its work; set solid priorities; have a long-term commitment; build partnerships; have a community orientation; foster organizational diversity; be a coordinating tool in watershed efforts; and build public understanding. All of these characteristics help CALFED achieve its goals.

An example of the benefit of real-time data availability is shown in the Attachments. Dr. Morgan Hannaford, Biology instructor at Shasta College, uses real-time data on precipitation in specific locations in the Cow Creek Watershed and relates it to real-time data on streamflow in Cow Creek. These are great examples for students in learning about water quality issues.

WIM research and monitoring reports will show the progress of eliminating factors that degrade habitat, impair ecological functions or reduce population size and health of species. WIM will help identify areas where action can be undertaken to reduce or eliminate parameters that degrade water quality at the source. WIM will be helpful in gathering information to help with decision making on

flow requirements for fish and wildlife needs, water quality and quantity concerns, since good water is required to maintain quality habitat to support a variety of fish and wildlife and benefit human populations.

WIM assists CALFED in fulfilling its commitments through support for local leadership; substantive stakeholder consultation; agency coordination; coordination with local non-CALFED programs; assistance in environmental documentation; support for science-based adaptive management.

This project promotes all three of the initial implementation priorities for the CALFED funding cycle. WIM refines the watershed management plan through feedback loops of ongoing monitoring by independent groups so the management plan becomes a living document instead of a snapshot in time. WIM implements an important part of the feedback loop process by developing long-term communication model that includes higher education, research and implementation with technical advice and support from key agencies on a long-term basis, which is key to adaptive management of watershed restoration projects.

C. Identify a lead agency for environmental compliance, such as CEQA or NEPA. Describe the program's strategy and timetable on environmental compliance.

Not applicable to this proposal.

8. Describe any other important aspects of your program that you could not address in the above items, and that you feel are critical to fully describing your project.

Watershed restoration projects and improvements in Shasta County are directly connected to the health and well-being of the Bay Delta through the Sacramento River. CALFED goals and priorities will be linked with local goals and priorities and the connection made strong by including CALFED as a partner in WIM. Relating the needs of the Bay Delta with local needs helps participants develop a clear understanding of why, for instance, monitoring protocol used by students and citizens must be consistent with CALFED monitoring protocols to assure long-term success.

Western Shasta Resource Conservation District (WSRCD) was formed in 1957 to work cooperatively with willing landowners and other organizations to facilitate the conservation or restoration of Western Shasta County's natural resources. WSRCD is a not-for-profit special district of the state and is managed by a volunteer 7-member board of local landowners. Assessments, inventories, and on-the-ground projects accomplished by the district to date have occured in the following watersheds: Upper Clear Creek, Lower Clear Creek, Cow Creek, Shasta West (Rock Creek and Middle Creek), and Battle Creek. The district is grant funded and has a reputation of operating on time and under budget. Grant funding received during 1998-99 was $690,808. 1999-2000 was $1,445,454. The budget for 2000-2001 is $1,339,000. Current projects include the Lower Clear Creek Channel Reconstruction and Floodway Restoration, spawning gravel injections, erosion inventories, erosion repair projects, fuels inventories, fuelbreak construction, wetland construction, education, publications, coordinating watershed groups on Upper and Lower Clear Creek, Shasta West and Cow Creek watersheds.

A. SHASTA COLLEGE AND ITS DEPARTMENT OF NATURAL RESOURCES

Dedicated to understanding the balanced and multiple-use role of scarce resources in a global economy

Computer management
Network file storage and printer services
Web Server
Web Site Maintenance
Hardware and software support services

GIS
Natural Resource Program

GIS
Natural Resource Program

B. CLEAR CREEK FIELD STATION

at Environmental Education Camp jointly operated by the Shasta County Office of Education and the National Park Service, Whiskeytown National Recreation Area
Facility for research, field trips, Shasta College classes

Facility for research, field trips, Shasta College classes

WSRCD
Grant funding for projects, education, monitoring, adaptive management
Implement restoration projects
Write reports and analysis

SCOE

Watershed Groups

ATTACHMENTS

Budget

Detailed Budget
Summary Budget and Tasks

Notifications - Submittal Letters:
Shasta County Board of Supervisors; Tribal Government – Redding Rancheria; Shasta College; California Department of Forestry and Fire Protection; Shasta-Tehama Bioregional Council; Shasta Community Service District; Shasta County Office of Education

Response Letters of Support Received:
Shasta College; Shasta County Board of Supervisors; Shasta County Office of Education; Shasta-Tehama Bioregional Council; California Department of Forestry and Fire Protection

Letters Sent With Copy of Proposal:
Shasta College; Shasta County Board of Supervisors; Shasta County Office of Education; Tribal Government – Redding Rancheria; California Department of Forestry and Fire Protection; Shasta-Tehama Bioregional Council; Shasta Community Service District

Memo on Lack of Response From Redding Rancheria

Environmental Information Form

Environmental Permitting and Approvals Form

Land Use Checklist

Memo on Lack of Response by Redding Rancheria

Redding Rancheria is the only tribal government unit in the Western Shasta County watersheds where WSRCD has watershed restoration projects underway. Early in the Lower Clear Creek CRMP meetings a representative from the tribe would attend, but we have not had anyone attend any of our meetings for almost two years.

Redding Rancheria owns and operates Win River Casino, a major Indian gaming casino near Redding, and has just developed a Mini-Mart and is in the planning stages for a major hotel/resort near the casino.

We have called several people at the Rancheria and even made appointments to meet with them, but the meetings get cancelled or the Rancheria representative does not show up.

We continue to send information to the tribe about our work in the watersheds, but their priorities are focused on development at this time, therefore, we do not have a letter of support from the Rancheria in this proposal.

Watershed Information Model					
Task No.	**Task Description**	**Completion**	**Match $**	**CALFED $**	**Total**
1	**Project Management, Administration and Coordination**			127,982	127,982
1a	Provide all technical and administrative services as needed for contract completion; monitor, supervise and review all work performed; coordinate budgeting and scheduling to assure the contract is completed within budget, on schedule and in accordance with approved procedures, applicable laws and regulations.	Ongoing			
1b	Ensure contract requirements are met through the completion of Quarterly Status Reports.	10th of every January, April, July and October			
1c	Award subcontract to VESTRA through a legally enforceable agreement between the RCD and the subcontractor.	Mar-02			
	Task Products: Quarterly Status Reports and subcontract documentation				
	Success Criteria: Reports Completed and contract signed with subcontractor				
2	**Advisory Committee**		6,000	9,000	15,000
2a	Form an Advisory Committee, which includes representatives from agencies, to identify data, research and real-time data opportunities to link to WIM.	Feb-02			
2b	Provide meetings as needed for input from the AC regarding data and research available for WIM. The AC will review interim progress reports and the draft final report. The AC comments on the draft project final report shall be addressed and incorporated into the project final report.	Ongoing			
	Task Products: An Advisory Committee for Watershed Information Model.				
	Success Criteria: A minimum of four agencies consistently paritcipating on the AC.				

3	**Education and Outreach**		2,000	12,000	14,000
3a	Prepare an outreach program using the Internet to gather data and research for WIM, encourage contributions by agencies and educational institutions, and advertise the availability of the service to potential users.	Sep-02			
3b	Prepare Monthly Internet newsletters free to subscribers with information on the program status, new additions or links, and issues of interest.	End of each month beginning the 10th month of the contract.			
3c	Submit at least two articles to local newspapers on program objectives and progress.	July and December 2002			
	Task Products: Internet e-mail list, monthly newsletters beginning the 10th month; two local newspaper articles.				
	Success Criteria: An Internet e-mail list of at least 250 including watershed groups, educational institutions, agencies and stakeholders; monthly Internet newsletters beginning in the 10th month; number of site hits per month; one newspaper article published.				
4	**WIM Development**		4,000	172,495	176,495
4a	Work with VESTRA, Shasta College, Whiskeytown Environmental School, and the Advisory Team to design the WIM system.	May-02			
4a	Develop WIM, including setting up a dynamic web page including links, a Data Catalog of GIS files and metadata, viewing GIS data, viewing static pictures, interactive capabilities with GIS with a browser and real-time update information. Set up system at Shasta College and backup system.	Sep-02			

4b	Research, gather, and include base line data in watersheds throughout the area, from agencies, watershed groups, educational institutions and WSRCD and add it to or link it in WIM	Sep-02			
	Task Products: A fully designed Watershed Information Model				
	Success Criteria: A Watershed Information Model that is considered a successfully operating system by Shasta College, Whiskeytown Environmental School, WSRCD and AC as evidenced by reports from each organization; feedback surveys from newsletter subscribers; survey of at least one classroom in the School of Natural Resources at Shasta college each year on user friendliness, level of information available; review annually by the Cow Creek Watershed Management Group on usefulness to local landowners and those working in the watershed.				
5	**Draft and Final Project Reports**		2,000	8,000	10,000
5a	Prepare an interim report on the layout, design and operation of WIM for review by CALFED, the AC, Shasta College, Whiskeytown Environmental School, and local watershed groups.	Nov-02			
5b	Prepare a second interim report on the use of WIM by various agencies, educational institutions, watershed groups and the public, including a review of changes and additions to the site since the last report.	Sep-03			

5c	Prepare a draft final report on WIM, which includes the results of the task and subtask work completed. Submit the draft to the Contract Manager, AC and all other affected public and private agencies and interested parties for review and comment. Prepare responses for all comments made on the draft report.	Sep-04			
5d	Prepare a final report incorporating all relevant comments made on the draft report. Submit the final report to the Contract Manager. Distribute the final report to members of the AC and all public and private agencies and individuals with an interest in the project.	Dec-04			
	Task Products: Draft and Final Reports				
	Success Criteria: Reports completed and distributed.				
	Subtotal			329,477	343,477
	Indirect Overhead 15%			49,422	49,422
	Total		**14,000**	**378,899**	**392,899**